

DETAILS FOR DRAWING FRAMES.

JOHN HETHERINGTON & SONS, Limited,
MANCHESTER.

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DETAILS FOR DRAWING FRAMES.

John Hetherington & Sons, Ltd.

STEPHEN C. LOWE, Agent,

186 DEVONSHIRE STREET, - BOSTON.

JOHN HETHERINGTON & SONS.
LIMITED

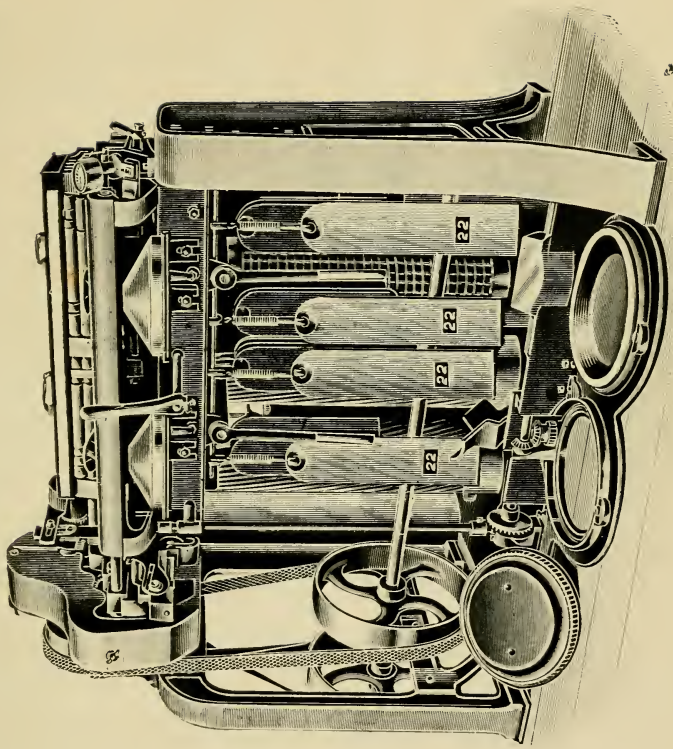
Makers of all kinds of
Cotton Opening, Scutching, Carding, Preparing,
Spinning and Doubling Machinery, also
Engineers' Tools. Mill Gearing, Hoists, etc.

POLLARD STREET, ANCOATS,
MANCHESTER.

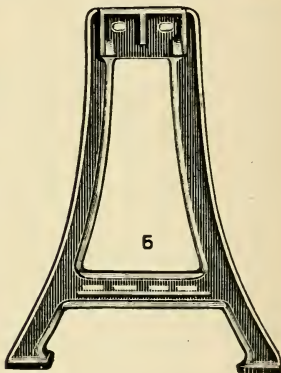
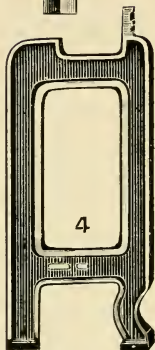
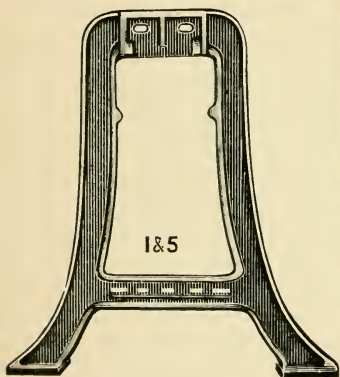
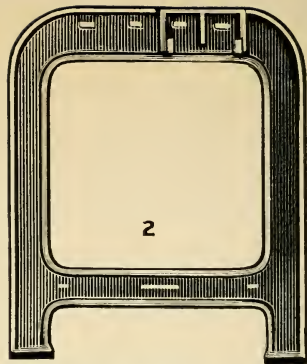
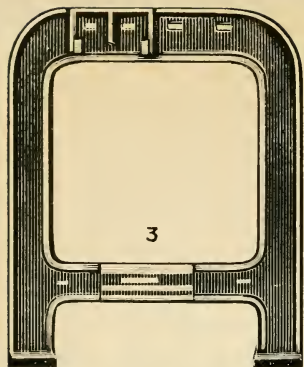
Telephone No.
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Telegraphic Address:
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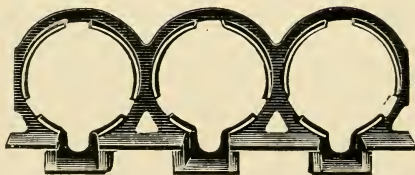
JOHN HETHERINGTON & SONS, LIMITED, MANCHESTER.



DRAWING FRAME.



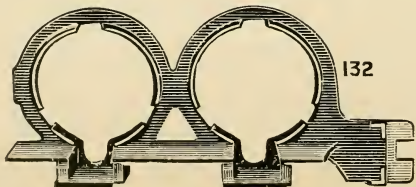
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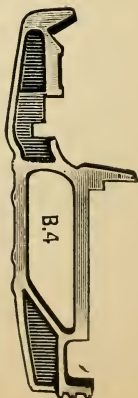
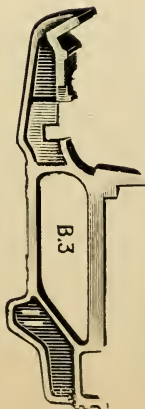
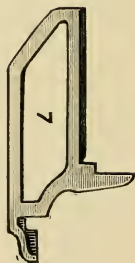
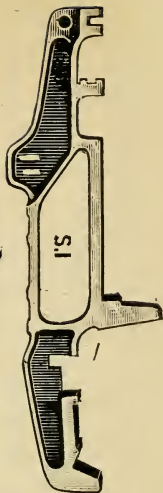
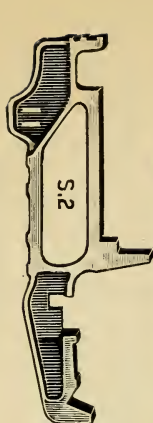
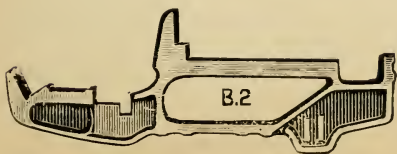
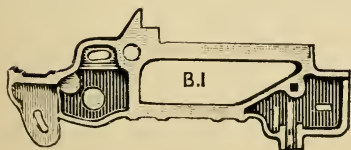
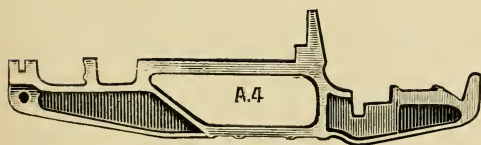
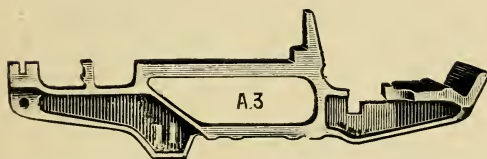
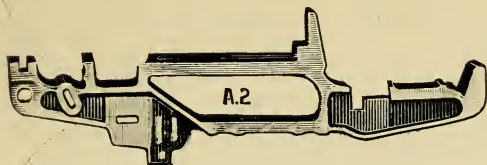
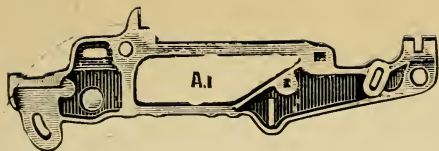


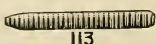
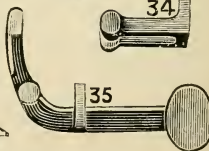
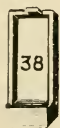
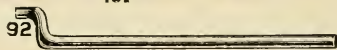
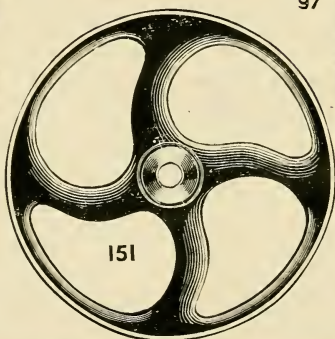
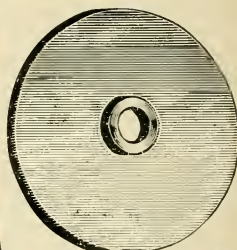
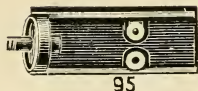
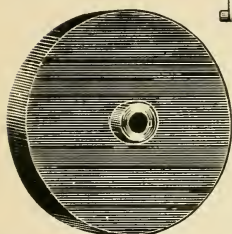
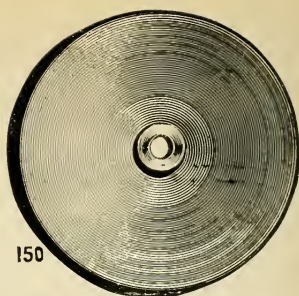
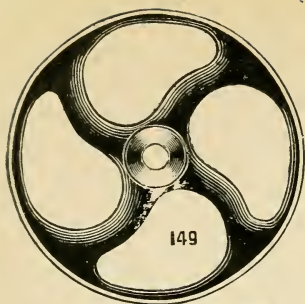
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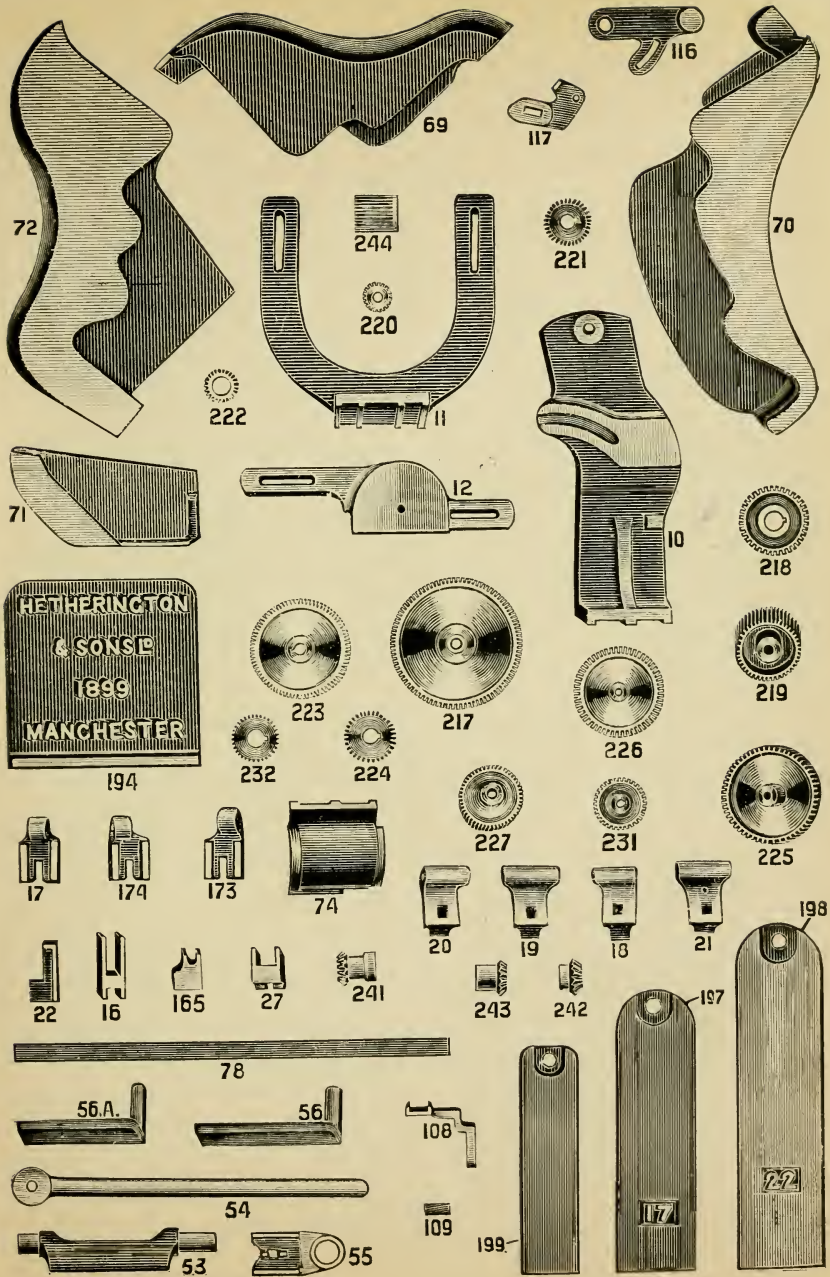


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60



177

9. A.



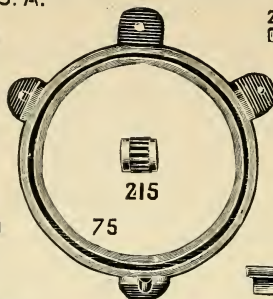
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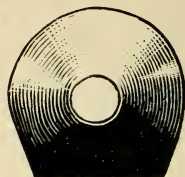
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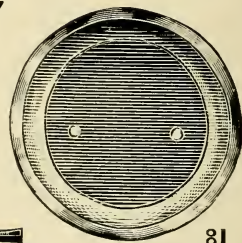
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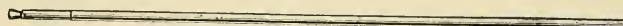
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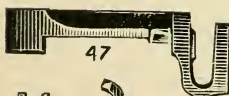
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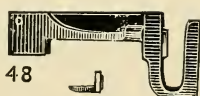
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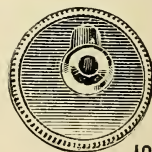
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202



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134



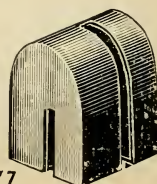
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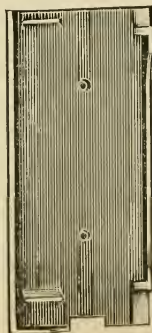
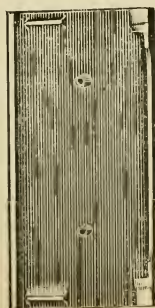
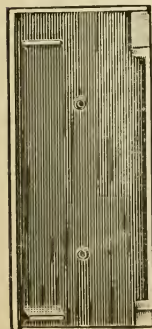
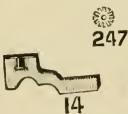
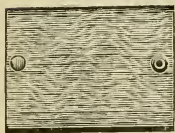
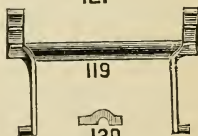
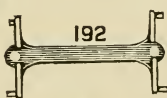
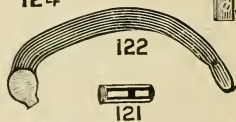
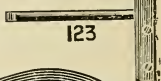
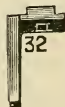
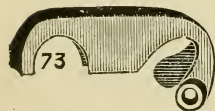
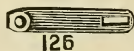
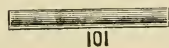
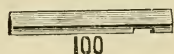
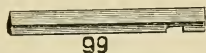
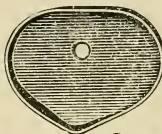
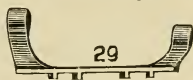
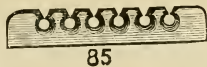
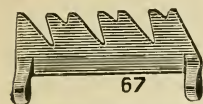
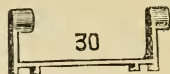
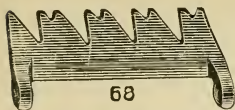
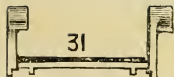
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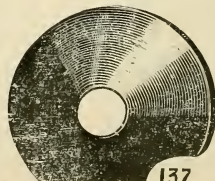
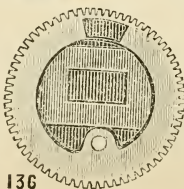
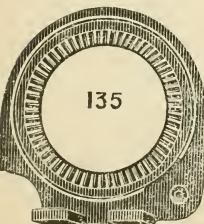
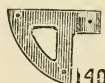
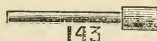
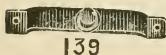
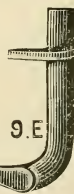
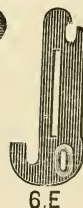
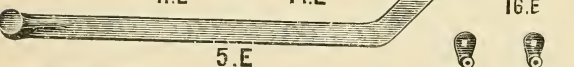
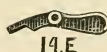
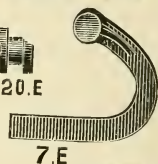
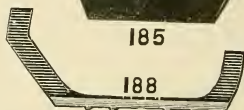
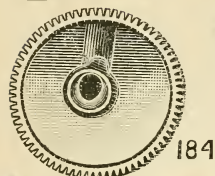
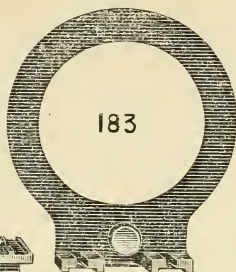
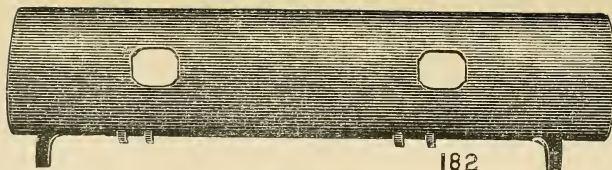


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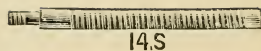




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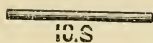
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14.S



2.S



10.S



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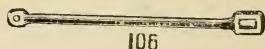
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11.S



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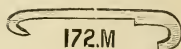
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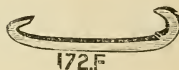
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170



172.M



172.F



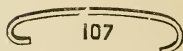
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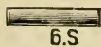
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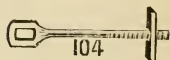
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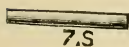
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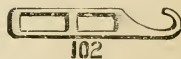
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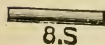
181



178



102



8.S



114



115



103

DRAWING FRAMES.

DETAILS OF DRAWING FRAMES.

NOTE.—In ordering Sundries for Drawing Frames kindly state the Number of Deliveries and the Gauge.

- I. Frame End
- IA. Gearing End Stand with Single Preventor
- IB. " " " without "
- IS. Special Stand with Single Preventor
- 2. Broad Spring Piece R.H.
- 2A. Second Large Stand with Single Preventor
- 2B. " " " without "
- 2S. Special Stand without Single Preventor
- 3. Broad Spring Piece L.H.
- 3A. Wing Stand with Single Preventor
- 3B. " " without "
- 4. Small Spring Piece
- 4A. Off End Stand with Single Preventor
- 4B. " " without "
- 5. Narrow Frame End
- 5A. Traverse Rail
- 6. Narrow Spring Piece
- 6A. Back Plate
- 7. Small Stand
- 8. Double Pedestal
- 9. Single "
- 9A. Callender Cover for 2in Callenders
- 10. Upright Bracket
- 11. Horn "
- 11A. Top Clearer, Gearing End

12. Horn Box
- 12B. Top Clearer, Off End
13. Plain Block for Curl
- 13C. Top Clearer, Middle
14. Four Toed Block for Curl
15. Curl
16. Stand Slide
17. Small Bracket for Back of Slide
18. No. 2 Stand Cap
19. No. 3 "
20. No. 4 "
21. Cap for Special Stand
22. Small Stand Cap
23. Callender Roller Step, Gearing End
24. " " " Off End
25. Front Callender Roller Step, Gearing End
26. " " " " Off End
27. Small Cast Iron Slide for Gearing End Stand
28. Pillar for End of Roller
29. Cross Shaft Bracket
30. Traverse Motion Bracket
31. Narrow Traverse Motion Bracket
32. Traverse Motion Fork
33. Stop Rod Bracket
34. Clutch Weight Bracket
35. Light Clutch Weight
36. Strap Fork
- 37.
38. Alternate Strap Fork
39. Small Bracket for Spring
40. Small Stop Bracket for Rods
41. Handles for Setting on Rods
42. Bonnet
43. Table
44. Stud Bracket for Stop Rod
45. Knife Bracket
46. Tumbler Stop
47. Long Measuring Motion

48. Short Measuring Motion
49. Upright Shaft
50. Measuring Motion Plate
51. " " Nut
52. " " Nib
53. Weight Relieving Motion, Eccentric
54. " " " Eccentric Handle
55. " " " " Bracket
56. " " " " Stop Bracket, End
- 56A. Weight Relieving Motion, Stop Bracket, Middle
57. Front Tumbler Lever Bracket
58. " " Lever
59. " " " Weight
60. Callender Cover Clearer
61. Swivel for Can Bottom Bracket
62. Can Bottom Bracket
63. Swivel Bracket
64. Swivel
65. Front Tumbler
66. Snuff Box
67. Sliver Plate, 6 Ends
68. " " 8 "
69. Short Tail Guard
70. Long " "
71. Guard for 38 T Carrier Wheel
72. Large Guard
73. Single Preventor Guard
74. Guard for 38/16 Wheel
75. Can Ring
76. Middle Cover for Can Bottom
77. Gearing End Cover for Can Bottom
78. Rod for Weight Relieving Motion
- 79.
80. 9in. Can Wheel
81. 10in. "
82. Long Bracket for Fastening Down Can Bottom,
 Gearing End
83. Slide for ditto

84. Bracket for Fastening Down Can Bottom, Off End
85. Sliver Plate without Preventor, 6 Ends
86. " " " " 8 "
87. Strap Fork Arrangement, Rail
88. " " " " Angle Bracket
89. " " " " Upright
90. " " " " Strap Fork
91. " " " " Eccentric Plate
92. " " " " Eccentric
93. " " " " Handle
94. New Strap Fork Arrangement, Strap Fork
95. " " " " Strap Fork Slide
96. " " " " Eccentric
97. " " " " Handle
98. Back Tumbler
99. Knife Blade for Back Tumblers, 8 Ends
100. " " " " 6 "
101. Strip for Back Tumblers
102. Cast Iron Weight Hook (Weight Relieving Motion
103. Cast Iron Weight for Spring (Weight Relieving Motion)
104. Weight Wire and Oblong Nut (Weight Relieving Motion)
105. Long Weight Wire Hook
106. " " " " for Springs
107. Special Wire Hook for Loose Bushes
108. Indicator Bracket
109. " Worm
110. Cap for Can Bottom
111. Brass Guide, 6 Ends
112. " " 8 "
113. Stop Rod Spring
114. Spring for Front Roller Weighting
115. **S** Hook for Front Roller Weighting
116. 80 T Carrier Bracket with Single Preventor
117. 80 T " " without "
118. Ermen's Revolving Clearer, Top Clearer
119. " " " " Swing

120. Ermen's Revolving Clearer, Cap
 121. " " " Swing Tightening Bracket
 122. " " " Sickle
 123. " " " Scraper
 124. " " " Angle Bracket for Curl
 125. " " " Curl
 126. " " " Eccentric Lever
 127. " " " Eccentric
 128. " " " 66 T and 14 T Carrier Bracket
 129. Ermen's Revolving Clearer, Guard
 130. " " " Guard Bracket
 131. Malleable Iron Bridge for Bonnet
 132. Can Bottom or Floor Plate (Gearing End)
 133. " " " " (Off End)
 134. Can Bottom Coupling
 135. Merino Coiler, Table
 136. " " Press or Coiler Wheel
 137. " " Bonnet
 138. " " Trunk
 139. " " Trunk Bracket
 140. " " Callender Roller Bracket
 141. " " " " "
 142. " " " " "
 143. " " Long Callender Roller
 144. " " Short " "
 145. " " Callender Roller Spring
 146. Beam Stay
 147. Fast Pulley, 12in. x 2in. on Roller
 148. Loose " 12in. x 2in. "
 149. Fast " Outside Driving
 150. Loose " " "
 151. Inside Driving Pulley, 18in. x 4in.
 152. 1½in. Driving Shaft
 153. Coupling for Driving Shaft
 154. 1¼in. x ¾in. Setting on Rod
 155. Snuff Box Roller for Single Preventor

156. Merino Coiler, 21 T Peg Wheel
157. " " 21 T Bevel for Peg Wheel, 1in. Ho'le
158. " " 21 T " $\frac{3}{4}$ in. Hole
159. " " 19 T " for Callender Roller
160. " " 10 T Spur Wheel
161. Roller Beam
162. Large Spider
163. Small "
164. Pedestal Bush
165. Second Roller Slide (Gearing End Stand)
166. Callender Roller Bearer (Brass)
167. " " " (Cast Iron)
168. Front Callender Roller Step (Brass)
169. $1\frac{1}{8}$ in. Brass Step for Gearing End Stand
170. $\frac{7}{8}$ in. " " Roller Slides
171. Brass Regulating Slide for Horn Box
- 172F. Round Backed Cast Iron Weight Hook
- 172M. Flat " " " "
173. One Sided Bracket for Back of Stand (for Narrow Gauges)
174. One Sided Bracket for Back of Stand (Gearing End)
175. Pedestal Cap
176. Guard for Traverse Motion
177. Callender Cover Grid
178. Bob Weight for Wood V. Clearer
179. Angle Iron for Sliver Plate
180. Front Tumbler Tail
181. Steel Bit for Gearing End Stand
182. 3in. Callenders—Covers
183. " Table
184. " Press or Coiler Wheel
185. " Bonnet
186. " Clutch Weight
187. " " " Bracket
188. " Cross Shaft Bracket
189. " Callender Cover Clearer
190. " Front Tumbler
191. " Front Tumbler Tail

192. Swing for Frictional Revolving Clearer
193. Press or Coiler Wheel for 2in. Callender
194. Frame End Name Plate
195. Wood V. Clearer
196. Wood Top Clearer
197. 17lb. Roller Weight for 2nd, 3rd and 4th Line
198. 22lb. " " for Front Line
199. 10lb. " " for Metallic Rollers
200. 48 T Callender Roller Wheel
201. Bossed Carrier for Callender Rollers
202. Front Roller Wheel " "
203. 30 T Callender Roller Wheel² "
204. 38 T Bossed Carrier
205. 28 T Coiler Wheel
206. 16 T Bevel and Worm
207. 38 T Bevel for Top of Upright
208. 11 T " Bottom "
209. 38 T " Can Bottom Shaft
210. 20 T " " "
211. 25 T Bevel and 24 T Spur Compound for Can Bottom Stud
212. 30 T Bevel for Coiler Shaft
213. 30 T Peg Wheel
214. 16 T Callender Roller Wheel
215. 16 T Double Bossed Callender Roller Wheel
(1 $\frac{1}{4}$ in. Bore)
216. 16 T Double Bossed Callender Roller Wheel (1in. Bore)
217. 100 T Crown Wheel
218. Change Wheel
219. 50 T Broad Carrier
220. 20 T Draft Wheel for 2nd and 3rd Rollers
221. 37 T Back Roller Wheel (1 $\frac{1}{8}$ in. Bore)
222. 25 T " " (1 $\frac{1}{8}$ in. ")
223. 80 T " " (1in. ")
224. 39 T " " (1in. ")
225. 80 T Bossed Carrier
226. 70 T " "
227. 49 T " "

- 228. 49 T Clutch Wheel
- 229. Long Clutch Box for Single Preventor
- 230. Short Clutch Box
- 231. 44 T Single Preventor Roller Wheel
- 232. 37 T Draft Wheel for Single Preventor Roller
- 233. 100 T Measuring Motion Wheel
- 234. 60 T Traverse " "
- 235. 36 T " " "
- 236. 10 T " " "
- 237. Traverse Motion Worm
- 238. " " Eccentric
- 239.
- 240. Traverse Motion Shaft
- 241. 14 T Bevel, Long Boss for Cross Shaft
- 242. 14 T " Short " Back Spider Shaft
- 243. 14 T Bevel, for Front Spider Shaft
- 244. 25 T Front Roller Wheel
- 245. 66 T and 14 T Compound Wheel for Ermen's Clearer
- 246. 66 T Draft Wheel for Ermen's Clearer
- 247. 14 T " " "

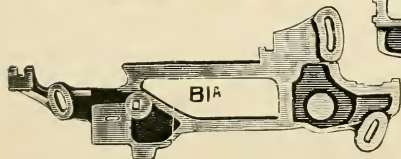
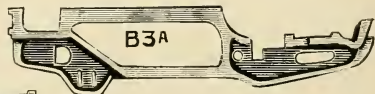
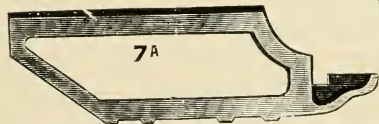
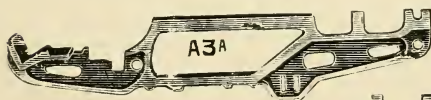
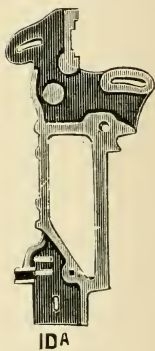
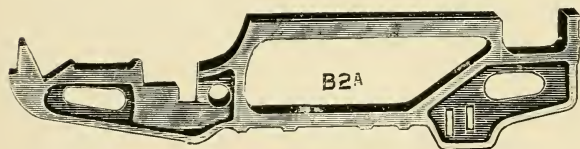
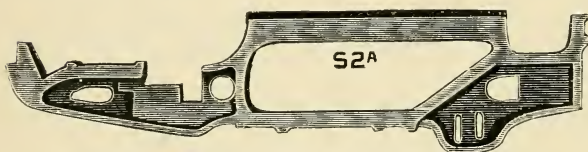
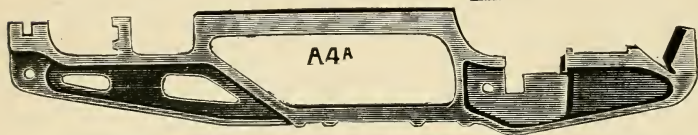
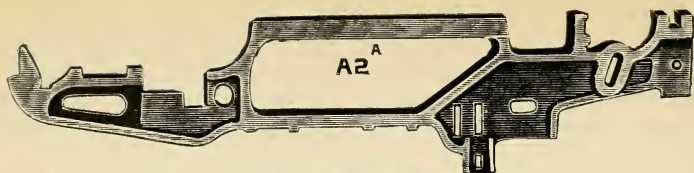
ELECTRIC STOP MOTION.

- 1E. Angle Bracket for Magnet Box
- 2E. Magnet Box
- 3E. " " Lid
- 4E. " " Lever
- 5E. Connecting Bracket
- 6E. Measuring Motion Plate
- 7E. Connecting Bracket
- 8E. Clutch Weight Bracket
- 9E. " " Lever
- 10E. Catch for Star Wheel
- 11E. Curl
- 12E. Bracket for Steel Plates
- 13E. " Back of Stand
- 14E. Lever for Front Stop Motion

- 15E. Bracket for Magnet Box
- 16E. Short Bracket for Front Stop Motion Lever
- 17E. Long " " " " "
- 18E. Cranked " " " " "
- 19E. Star Wheel
- 20E. Clutch for Star Wheel
- 21E. Bracket for Front Stop Motion Rod
- 22E. Setting on Rod Bracket

STUDS.

- 1S. Carrier Stud for Calender Rollers
- 2S. Large Guard Stud
- 3S. Crown Wheel Stud
- 4S. 70 T Bossed Carrier Stud
- 5S. 50 T Broad " "
- 6S. 80 T Bossed Carrier and Clutch Weight Stud
- 7S. Long $\frac{1}{2}$ in. Pin for Calender Covers
- 8S. Short $\frac{1}{2}$ in. " " "
- 9S. Short $\frac{1}{4}$ in. Pin for End Clearers
- 10S. Long $\frac{1}{4}$ in. " Middle "
- 11S. Stud for Measuring Motion Plate
- 12S. Knob for Large Guard
- 13S. Resting Pin for Guards
- 14S. Measuring Motion Screw
- 15S. Small Stud for Setting on Rod



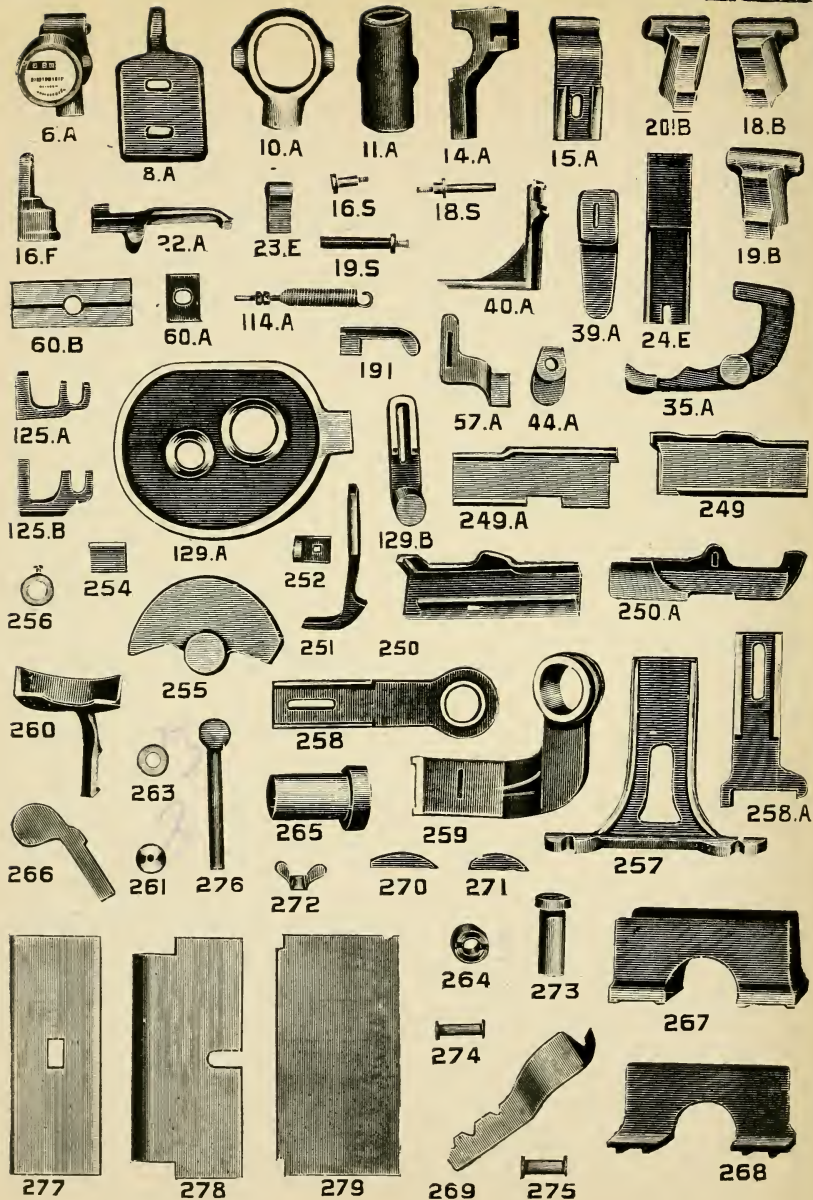
ADDITIONS TO DRAWING FRAMES,

1907.

- 1D^A. One Gearing End Stand, without Preventors
- 1B^A. " " with "
- 51^A. One Large Stand with Front Loose Slide, Special
Preventors
- A2^A. One Large Stand with Front Loose Slide Preventors
- B2^A. " " with Loose Front Slides, without
Preventors
- 52^A. One Large Stand with Loose Front Slides, without
Preventors
- A3^A. One Large Stand with Front Loose Slide Preventors
- B3^A. " " with Loose Front Slides, without
Preventors
- A4^A. One Large Stand with Front Loose Slide Preventors
- B4^A. " " with Loose Front Slides, without
Preventors
- 6A. One Indicator
- 7A. One Small Stand with Loose Front Slide
- 8A. One Pedestal Bracket
- 10A. " Ring Bracket
- 11A. " Bush
- 14A. One Block for Traverse Rail
- 15A. One Curl for Top Clearer
- 16F. One Front Roller Slide
- 16S. One Stud for Traverse Motion Plate
- 18S. Stud for Traverse Motion Plate
- 18B. One Large Stand Cap for 3 Callenders for No. 2 Stand
- 19S. One Stud for Indicator

- 19B. One Large Stand Cap for 3 Callenders for No. 3 Stand
- 20B. " " " 3 " " 4 "
- 22A. One Small Stand Cap
- 23E. One Small Bracket for Magnet Bore for Electric Stop Motion
- 24E. One Bearer Bracket for Back Plate for Electric Stop Motion
- 35A. Clutch Lever for 2 Callender Rollers
- 39A. One Stop Rod Bracket for Guard Locking Motion
- 40A. One Spring Bracket for Clutch Lever
- 44A. One Bracket for Guard Locking Motion
- 57A. One Front Tumble Lever Bracket Grid
- 60A. One Iron Calender Cover Clearer
- 60B. One Calender Cover Clearer (Wood)
- 114A. One Spring for Clutch Lever
- 125A. One Middle Curl for Revolving Clearer
- 125B. One Gearing End Curl for Revolving Clearer
- 129A. One Guard for Ermen's Clearer
- 129B. One Guard Bracket for Ermen's Clearer
- 191. One Front Tumbler Tail for 3in. Callenders
- 249. One Clearer End Gearing End
- 249A. One Narrow Clearer End Gearing End
- 250. One Clearer End Off End
- 250A. Narrow Clearer End Off End
- 251. One Bracket for Steel Back Plate
- 252. One Callender Cover Hinge Bracket
- 254. One Cap for Revolving Curl
- 255. One Half Moon Guard
- 256. One $\frac{3}{4}$ Stop Collar
- 257. Floor Bracket for Driving Shaft Tube
- 258. One Slide Bracket for Driving Shaft Tube
- 258A. " " " "
- 259. One Off End " " "
- 260. One Back Roller Wheel Guard
- 261. One Weight Wire Washer, small hole
- 263. " " " large "
- 264. One Clutch Box Collar, $1\frac{3}{4}$ in. long
- 265. One Loose Pulley Bush

- 265. One Gearing End Bracket for Coiler Shaft
- 267. One Double Leave Bracket for Lever weighted
- 268. One Single Leave Bracket for Lever weighted
- 269. One Weight Lever, 16in. gauge, for Lever weighted
- 270. One Large Saddle for Lever weighted
- 271. One Short Saddle for Lever weighted
- 272. One Wing Nut for Lever weighted
- 273. One 46 T Carrier Wheel Bush
- 274. One $\frac{5}{8}$ Brass Step
- 275. One $\frac{3}{4}$ "
- 276. One Finger for Rod Bracket for Guard Locking
Motion
- 277. One Steel Callender Cover, 16in. gauge
- 278. One Callender Cover Sheet Iron
- 279. One Steel Top Clearer, 16in. gauge



01MAY33 Dartmouth

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Details for drawing frames

